

## REPLACEMENT CLAIM SET (WITH CHANGES NOTED)

- 1) (CURRENTLY AMENDED) A method for deinking waste paper comprising the steps of:
  - a) converting the waste paper to a non-alkaline or low alkaline pulp slurry having a pH of from about 6.0 to about 8.8;
  - b) contacting the pulp slurry with a deinking blend comprising a first alkoxylated fatty alcohol having a HLB of at least 13 and a first fatty acid, wherein said deinking blend comprises from about 20 wt.% to about 60 wt.% of said first fatty acid; and
  - c) separating ink from the pulp slurry by washing and/or flotation.
- 2) (ORIGINAL) The method of claim 1, wherein the first fatty acid is non-alkoxylated.
- 3) (ORIGINAL) The method of claim 1, wherein the first fatty acid is more than 20 wt% fatty acid having at least 16 carbon atoms and less than 60 wt% of saturated fatty acid having 14 carbons or less.
- 4) (ORIGINAL) The method as in claim 1, wherein the first fatty acid comprises 6 to 20 carbon atoms.
- 5) (ORIGINAL) The method of claim 1, wherein, in step b), the deinking blend further comprises a second alkoxyated fatty alcohol.
- 6) (ORIGINAL) The method of claim 5, wherein the second alkoxylated fatty alcohol is of the formula:

$$R-O-[(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m]-H$$

- a) wherein:
- b) R is a straight or branched alkyl group;
- c) n is from about 10 to about 100;
- d) m is from about 1 to about 35; and
- e) said n -(CH<sub>2</sub>-CH<sub>2</sub>-O)- units and said m -(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)- units are ordered in block or random format in any order or sequence.
- 7) (ORIGINAL) The method of claim 1, wherein the first alkoxylated fatty alcohol is of the formula:

$$R-O-[(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m]-H$$

- a) wherein:
- b) R is a straight or branched alkyl group;
- c) n is from about 5 to about 40;
- d) m is from about 0 to about 20; and
- e) said n -(CH<sub>2</sub>-CH<sub>2</sub>-O)- units and said m -(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)- units are ordered in block or random format in any order or sequence.
- 8) (ORIGINAL) The method of claim 7, wherein R is a C6 to C20 alkyl.
- 9) (ORIGINAL) The method of claim 1, further comprising adding sodium silicate or sodium sulfite or a combination thereof to the pulp slurry.
- 10) (CANCELED)
- (ORIGINAL) The method of claim 1, further comprising adding a flotation additive to the slurry before or during separating ink from the pulp slurry.
- 12) (ORIGINAL) The method of claim <u>1</u> <del>10</del>, further comprising adding one cationic additive to the slurry before or during the flotation.
- 13) (ORIGINAL) The method of claim 12, wherein the cationic additive is a cationic polymer.
- 14) (ORIGINAL) The method of claim 13, wherein the cationic additive is a cationic polyamine.
- 15) (ORIGINAL) The method of claim 1, wherein the first alkoxylated fatty alcohol comprises at least 5 moles of ethoxylation.
- 16) (ORIGINAL) The method of claim 1, wherein the alcohol portion of the first alkoxylated fatty alcohol comprises 6 to 20 carbon atoms.
- 17) (CANCELLED)
- 18) (ORIGINAL) The method of claim 1, wherein the pulp slurry in step a) has a pH of from about 6.8 to about 7.2.
- 19) (ORIGINAL) The method of claim 1, wherein the blend is a liquid at a temperature of at least 22 °C.
- 20) (CANCELED)
- 21) (CANCELED)
- (ORIGINAL) The method of claim 1, wherein the first alkoxylated fatty alcohol and first fatty acid are present in a ratio of from about 1:2 to about 2:1 by weight.

- 23) (CANCELED)
- 24) (CANCELED)
- 25) (ORIGINAL) The method of claim 5, wherein the blend comprises alkoxylated fatty alcohol and fatty acid in a ratio of from about 1:2 to about 3:1 by weight.
- 26) (ORIGINAL) The method of claim 1, wherein the blend comprises water or other diluent.
- 27) (ORIGINAL) The method of claim 1, wherein the blend comprises from about 0 to about 25 weight % water or other diluent.
- 28) (ORIGINAL) The method of claim 1, wherein the first fatty acid is a tall oil fatty acid.
- 29) (ORIGINAL) The method of claim 1, wherein the blend further comprises a second fatty acid, wherein the second fatty acid is an alkoxylated fatty acid of the formula:

$$R^2$$
-C(O)O-[(CH<sub>2</sub>-CH<sub>2</sub>-O)<sub>p</sub>-(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)<sub>q</sub>]-H

## wherein:

- a) R<sup>2</sup> is a straight or branched alkyl group comprising at least 6 carbon atoms;
- b) p is from about 10 to about 100;
- c) q is from about 0 to about 50; and
- d) said p -(CH<sub>2</sub>-CH<sub>2</sub>-O)- units and said q -(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)- units are ordered in block or random format in any order or sequence.
- 30) (ORIGINAL) The method of claim 29, wherein R<sup>2</sup> is a C6 to C20 alkyl.
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- 59) (CANCELLED)
- 60) (CURRENTLY AMENDED) A method for deinking waste paper comprising the steps of:
  - a) converting the waste paper to a non-alkaline or low alkaline pulp slurry having a pH of from about 6.0 to about 8.8;
  - b) contacting the pulp slurry with a deinking blend comprising a first alkoxylated fatty alcohol having a HLB of at least 13 and a first fatty acid, wherein said deinking blend comprises from about 20 wt.% to about 60 wt.% of said first fatty acid; and
  - c) separating ink from the pulp slurry by washing and/or flotation; wherein the first alkoxylated fatty alcohol comprises at least five moles of ethoxylation; and
  - wherein the first fatty acid is a non-alkoxylated C6 to C20 fatty acid.
- 61) (ORIGINAL) The method of claim 60, wherein the blend comprises a second fatty acid wherein the second fatty acid is an alkoxylated fatty acid.

62) (ORIGINAL) The method of claim 60, wherein the first alkoxylated fatty alcohol is of the formula:

$$R-O-[(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m]-H$$

- a) wherein:
- b) R is a straight or branched alkyl group;
- c) n is from about 5 to about 40;
- d) m is from about 0 to about 20; and
- e) said n -(CH<sub>2</sub>-CH<sub>2</sub>-O)- units and said m -(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)- units are ordered in block or random format in any order or sequence.
- 63) (ORIGINAL) The method of claim 62, wherein n is 12 to 25 and m is 0.
- 64) (ORIGINAL) The method of claim 62, wherein the first fatty acid is more than 20 wt% fatty acids having at least 16 carbon atoms and less than 60 wt% of saturated fatty acid having 14 carbons or less.
- 65) (CANCELLED)
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- 68) (CANCELLED)
- 69) (CANCELLED)
- 70) (CURRENTLY AMENDED) A deinking composition comprising:
  - a) a first fatty acid that is not alkoxylated and that comprises more than 20 wt% fatty acids having at least 16 carbon atoms and less than 60 wt% of saturated fatty acids having 14 carbons or less, wherein said deinking blend comprises from about 20 wt.% to about 60 wt.% of said first fatty acid;
  - b) a first alkoxylated fatty alcohol having a HLB of at least 13;
  - c) optionally a second fatty acid that is alkoxylated; and
  - d) optionally a second alkoxylated fatty alcohol.
- 71) (ORIGINAL) The composition of claim 70, wherein the first fatty acid comprises from about 20 wt % to about 90 wt % of first fatty acid having at least 16 carbon atoms.
- 72) (ORIGINAL) The composition of claim 70, wherein the first fatty acid with at least 16 carbon atoms are from about 40 wt % to about 90 wt % unsaturated.

- 73) (ORIGINAL) The composition of claim 70, wherein the first alkoxylated fatty alcohol has an HLB value of at least 13.
- 74) (ORIGINAL) The composition of claim 70, wherein the first alkoxylated fatty alcohol is of the formula:

$$R-O-[(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m]-H$$

wherein:

- a) R is a straight or branched alkyl group;
- b) n is from about 5 to about 40;
- c) m is from about 0 to about 20; and
- d) said n -(CH<sub>2</sub>-CH<sub>2</sub>-O)- units and said m -(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)- units are ordered in block or random format in any order or sequence.
- 75) (ORIGINAL) The composition of claim 74, wherein n is 10 to 30 and m is less than 10.
- 76) (ORIGINAL) The composition of claim 74, wherein n is 12 to 25 and m is 0.
- 77) (ORIGINAL) The composition of claim 70, wherein the composition is a liquid at a temperature of at least 22 °C.
- 78) (ORIGINAL) The composition of claim 70, wherein the composition comprises an alkoxylated fatty acid, and said alkoxylated fatty acid is of the formula

$$R^2$$
-C(O)O-[(CH<sub>2</sub>-CH<sub>2</sub>-O)<sub>p</sub>-(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)<sub>q</sub>]-H

wherein:

- a) R<sup>2</sup> is a straight or branched alkyl group comprising at least 6 carbon atoms;
- b) p is from about 10 to about 100;
- c) q is from about 0 to about 50; and
- d) said p -(CH<sub>2</sub>-CH<sub>2</sub>-O)- units and said q -(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)- units are ordered in block or random format in any order or sequence.
- 79) (ORIGINAL) The composition of claim 70, further comprising a second alkoxylated fatty alcohol.
- 80) (ORIGINAL) The composition of claim 79, wherein the second alkoxylated fatty alcohol is of the formula:

$$R-O-[(CH_2-CH_2-O)_n-(CH_2-CH(CH_3)-O)_m]-H$$

- a) wherein:
- b) R is a straight or branched alkyl group;

- c) n is from about 10 to about 100;
- d) m is from about 1 to about 35; and
- e) said n -(CH<sub>2</sub>-CH<sub>2</sub>-O)- units and said m -(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)- units are ordered in block or random format in any order or sequence.